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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,526	01/03/2001	Eisuke Sasaoka	50395-073	9992

7590 08/29/2003

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EXAMINER
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TRA, TUYEN Q

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/752,526

Applicant(s)

SASAOKA ET AL.

Examiner

Tuyen Q Tra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 7-9 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Drawings***

1. The Drawings filed on 9/3/02 have been declared informal by the examiner.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 11 recites the limitation "said affective core area" in line 4. There is insufficient antecedent basis for this limitation in the claim.

- Claim 12 is rejected because of dependent on claim 11.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Masuda et al. (ECOC'98, page 139, 141).

a) With respect to claims 1 and 2, Masuda et al. discloses 1.65 $\mu$ m band fiber Raman amplifier pumped by wavelength-tunable broad-line width light source in Fig. 1 comprising of an optical fiber for Raman amplification and a pump light introducing means, the optical fiber

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transmitting signal light from input and Raman-amplifying the signal light by pump light introduced thereto, the pump light introducing means introducing, as the pump light, light having a wavelength that is within the amplification wavelength band of an Er-doped optical fiber amplifier into the optical fiber for Raman amplification, wherein the wavelength of said pump light is more than 1530nm but not more than 1605nm (page 139, second and third paragraphs).

b) With respect to claim 3, Masuda et al. further states that a pump source for supplying pump light for pumping the rare earth doped fiber optical amplification element which, in other word, means the pump light introducing means is provided with an Er-doped optical fiber amplifier which amplifies the pump light and introduces the amplified pump light into the optical fiber for Raman amplification.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 10 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Akasaka et al. (U.S. Pat. 6,292,288 B1).

a) With respect to claim 1, Akasaka et al. discloses 1.65 $\mu$ m band fiber Raman amplifier pumped by wavelength-tunable broad-line width light source in Fig. 1 comprising of an optical

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fiber for Raman amplification and a pump light introducing means, the optical fiber transmitting signal light from input and Raman-amplifying the signal light by pump light introduced thereinto, the pump light introducing means introducing, as the pump light, light having a wavelength that is within the amplification wavelength band of an Er-doped optical fiber amplifier into the optical fiber for Raman amplification, wherein the wavelength of said pump light is more than 1530nm but not more than 1605nm (col. 4, lines 31-40; col. 6, lines 34-42; col. 15, lines 40-42).

b) With respect to claim 10, Akasaka further discloses wherein the pump light introducing means have an optical multiplex.

c) With respect to claim 6, Akasaka et al. discloses a Raman amplifier in Figure 1. comprising of a Raman amplifier in a repeater (6) section thereof, the Raman amplifier being equipped with

- an optical fiber (2) for Raman-amplification which transmits signal light and Raman-amplifies the signal light by means of pump light introduced thereinto, and

- a means (1) of introducing the pump light having wavelength within the amplification wavelength band of an Er-doped optical fiber amplifier into the optical fiber (2) for Raman amplification, and the optical fiber for Raman amplification constituting a part or the whole of the optical transmission line of the repeater (6) section (col. 4, lines 31-40; col. 6, lines 34-42; col. 15, lines 40-42).

***Allowable Subject Matter***

8. Claims 4 and 7-9 are allowed.

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The reason for the indication of allowable subject matter is that (claims 4 and 8) An optical fiber having an absolute value of chromatic dispersion in the range of about 0.1 to 10ps/nm/km at 1.65 IL m wavelength; (claim 7) the optical transmission line is further provided with a dispersion compensating fiber, the chromatic dispersion of the optical fiber for Raman amplification having a sign opposite to that of the chromatic dispersion of the dispersion compensating optical fiber, the dispersion slope of the optical fiber for Raman amplification having a sign opposite to that of the dispersion slope of the dispersion compensating optical fiber; (claim 9) optical fiber whose effective area at 1.55 $\mu$ m wavelength is equal to or less than 85% of its effective area at 1.65 $\mu$ m wavelength disclosed in the claims is not found in the prior art.

9. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening c laims.

The reason for the indication of allowable subject matter is that an optical fiber having an absolute value of chromatic dispersion in the range of about 0.1 to 10ps/nm/km at 1.65 IL m wavelength disclosed in the claims is not found in the prior art.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Miyakawa et al. (US Patent 6,519,078 B2) disclose Raman amplifier with effective core area of pump light wavelength which is larger than that of signal light.

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b) Miyakawa et al. (US2001/021291 A1) disclose optical transmission line.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (703) 306-5712. The examiner can normally be reached on Monday to Friday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (703) 308-4883. The fax number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

tt

August 12, 2003

  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800